05-GF-113
(4000)

Muscoda Utilities

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January 16, 2003

Mr. Jim Loock, Chief Electric Engineer
Public Service Commission
610 N. Whitney Way
P.O. Box 7854
Madison, WI 53707-7854

RE: In the Matter of Filing Reporting Requirements for Appropriate Inspection and Maintenance, PSC Rule 113.0607(6)

Dear Mr. Loock:

Enclosed for filing are 3 copies of Muscoda Utility's report to the commission, submitted every two years, showing compliance with its Preventative Maintenance Plan.

Very truly yours,

Dennis Stenner
Director of Public Works

Enclosures

TWO YEAR REPORT DOCUMENTING COMPLIANCE WITH THE PREVENTATIVE MAINTENANCE PLAN

Muscoda Utilities

FILING DEADLINE
FEBRUARY 1, 2003

December 19, 2000

Dennis Stenner
Director of Public Works
Muscoda Utilities
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Muscoda, WI 53573

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This report format was prepared by the MEUW work group for PSC Rule 113.0607 for use by the 82 municipal electric utilities in Wisconsin and endorsed by PSC staff as meeting the requirements of Rule PSC 113.0607.

I Reporting Requirements: PSC 113.0607(6) states;

Each utility shall provide a periodic report to the commission showing compliance with its Preventative Maintenance Plan. The report shall include a list of inspected circuits and facilities, the condition of facilities according to established rating criteria, schedules established and success at meeting the established schedules.

II Inspection Schedule and Methods:

SCHEDULE:	MONTHLY	ANNUAL	EVERY 5 YEARS
Transmission (69Kv)	NA	NA	NA
Substations	X	X	
Distribution (OH & UG)		X	X

METHODS: Five criteria groups will be used to complete the inspection of all facilities.

1. IR – infrared thermography used to find poor electrical connections and/or oil flow problems in equipment.
2. RFI - Radio Frequency Interference, a byproduct of loose hardware and connections, is checked using an AM radio receiver.
3. SI – structural integrity of all supporting hardware including poles, crossarms, insulators, structures, bases, foundations, buildings, etc.
4. Clearance – refers to proper spacing of conductors from other objects, trees and conductors.
5. EC – equipment condition on non-structural components such as circuit breakers, transformers, regulators, reclosers, relays, batteries, capacitors, etc.

Distribution facilities will be inspected by substation circuits on a 5-year cycle such that the entire system will be inspected every 5 years. Inspector instructions for inspecting all facilities and forms are included in the plan.

III Condition Rating Criteria

This criterion, as listed below, establishes the condition of a facility and also determines the repair schedule to correct deficiencies .

0) Good condition
1) Good condition but aging
2) Non-critical maintenance required – normally repair within 12 months
3) Priority maintenance required – normally repair within 90 days
4) Urgent maintenance required – report immediately to the utility and repair normally within 1 week

IV Corrective Action Schedule

The rating criteria as listed above determine the corrective action schedule.

All maintenance items rated priority and higher are fixed immediately, All repairs rated non-critical and below are done immediately unless equipment is needed. Those repairs are completed within 7 days of equipment delivery.

V Record Keeping

All inspection forms and records will be retained for a minimum of 10 years. The inspection form contains all of the required critical information i.e. inspection dates, condition rating, schedule for repair and date of repair completion.

VI Reporting Requirements

A report and summary of this plan's progress will be submitted every two years with the first report due to the Commission by February 1, 2003. The report will consist of a cover letter documenting the percent of inspections achieved compared to the schedule and the percent of maintenance achieved within the scheduled time allowance.

VII Inspected Circuits and Facilities

Circuit # and description	Substation
From 2001 to present we have inspected 6 of the 7 distribution circuits. In 2001 we found bad elbows in one underground switching cabinet and replaced those. We annually inspect the overhead system and Industrial Park cabinets with thermal imaging and we have a hand held infrared unit to do spot inspections. We check down guys and all locking devices.	**We perform monthly substation inspections along with an annual thermal imaging inspection and oil testing. In 2002 we replaced one lightning arrestor on Circuit 6.**

Base load and peaking generation, less than 50 megawatts per unit in size, is typically subject to pre-operational checks, in addition to checks and maintenance during and after periods of operation. Emergency generation is test run and maintained every *(type in a period of time not exceeding one month)*to confirm its operational readiness.-NA

VIII Scheduling Goals Established and Success of Meeting the Criteria:

It is Muscoda Utility's goal to complete all monthly and annual substation inspections on time and to inspect 20% of the distribution system. In addition, we expected to complete all scheduled maintenance resulting from the inspections within the prescribed time periods specified in the rating criteria.

All of the inspection goals were met or exceeded. 85% of the distribution system was inspected rather than 40% during the two-year reporting period. 1 urgent maintenance item were found and repaired within 2 days. All non-critical maintenance items found and repaired on time. In 2003 we will be constructing a new substation to serve the Industrial Park. The primary purpose will be to serve the Industrial Park load and to serve as a reliability backup in the event the existing substation needs to be taken off-line. The new transformer will be rated at 3750 kVA.

IX Facility condition – rating criteria:

During the past two years, 85% of the distribution system was inspected and all substation inspections were completed on time. Of the items found requiring maintenance, all were repaired before they were responsible for an outage to customers. To replace the elbows, we worked on a Sunday, scheduled a service outage that effected one commercial customer for two-hours. Storm related outages have been minimal. Service was interrupted on Circuit 1 when lightning struck a transformer. Service was out for 3 hours and effected 6 residential customers. There were no equipment-related failures during the reporting period. Most of the system is over 20 years old and is in good condition. The system has proven to be reliable and with the construction of the new Industrial Park substation we anticipate less stress on the system and improved reliability.